THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 424. AUGUST 22, 1896. Vol. IX.

The Newcastle Sanitary Congress.

The fifteenth Congress will be held at Newcastle-on-Tyne from September 2nd to September 9th. The Rt. Hon. Earl Percy is the President, and H.R.H. the Duke of Cambridge, President of the Sanitary Institute, will open the Exhibition of Apparatus and Appliances relating to Health, which will be held in connection with the Congress. Tickets, entitling the holder to the use of the reception rooms, to admission to all addresses and meetings, to the Exhibition, and to any conversazione, may be obtained from the Secretaries at the Town Hall, Newcastle, or at the Parkes Museum, London.

Section I is devoted to "Sanitary Science and Preventive Medicine." It will be located in the University of Durham College of Medicine, and the papers will be read and discussions taken on Friday, September 4th and continued on the following Saturday and Monday.

Quite a long list of delegates from County Councils, Corporations, and Societies already exists, but no mention is made of any veterinary body. This is unfortunate; it is in fact a grave blunder, for if we dissociate ourselves from all the organisations now endeavouring to further the great science of public health, we shall inevitably be denied any official position in it. It is no use our insisting, merely in our own Journals and meetings, that we possess knowledge and capacity to share the work of protecting the public. We must take our stand in the front and let the public see that our training and acquirements fit us for such places as meat inspectors, dairy and cowshed inspectors, veterinary officers to suppress contagious disease amongst animals, and to prevent the transmission of diseases from animals to man.

It is not modesty that accounts for our negligence—it is apathy. If it be too late for us to have any official recognition at the Newcastle Congress, it is not too late for some of our members to attend and do their best to sustain our position. Those members who reside in Newcastle or the surrounding districts should at once apply for tickets and arrange to give a little time to the proceedings on September 4th or following days. At the last meeting of the British Medical Association the inspection of meat and milk was prominent in the discussion. On the subject of tuberculosis special resolutions were passed. Medical men are taking active interest in these matters and it is not in human nature to make the position by hard work and then to invite another man to reap the benefits. If we desire to share in the work and offices relating to public health we must show our interest in the subject. "Keep pegging away" is our motto.

The A.V.D. Pensions.

We publish this week the new warrant granting increased pensions to the officers of the Army Veterinary Department. Naturally it has given great satisfaction to the veterinary officers, and it should be a source of pleasure to the whole profession to see a group of its members well treated by a Government Department. The recognition of veterinary surgeons by the War Office reacts beneficially upon our whole body, and we can even imagine it making the Board of Agriculture feel rather ashamed of the ungenerous treatment meted out to their professional staff.

The increased pensions have not been attained by grumbling and apathetic waiting. For some years past every opportunity has been used to bring under the notice of the authorities the claim now acknowledged. No misdirected agitation has been fostered, but the question has never been lost sight of. Zeal has been tempered by tact. Sir Ralph Knox is quoted as having officially stated before a committee "that there was no body of men in the army more deserving than the veterinary officers—they rendered excellent service, always were obliging, never put forward petty grievances, made themselves universally liked and respected, and set an example of zeal and devotion to duty."

We congratulate the Department and its most successful Director General.

CASES AND ARTICLES.

CONDITIONING OF CAMELS.

In your number of July 4th is an article on the conditioning of camels quoting the experiences of the special correspondent of *The Daily News*. I have little hesitation in saying that causing them to remain for days together in the fashion described without water is nothing but gross cruelty. I have never served in Egypt, and was unaware that this idea was prevalent amongst the natives of that country, but in India I have had a great deal to do with camels, and the "Serwans" or camel drivers are most particular about water. During the Afghan war of 1878-80 the notion that the camel only required water once in three days somehow got about amongst transport officers who had charge of them with the most disastrous results, which are now matters of history. At this time I was in the Royal Artillery and the battery to which I belonged had a certain number of camels attached to it as part of its equipment. I had these camels regularly watered twice daily, they worked harder than the ordinary transport camels and with-

out any loss. From 1880 to 1885 I held the appointment of veterinary surgeon to the Punjab Government, part of my duties leading me out into camp every winter. I had a large office establishment to take about, and for three or four years in succession hired 16 or 18 camels every winter from the same man, most of the animals being the same every year. The owner of these camels, who was by caste a Seruan or camel owner from the Bikaneer desert, was always most particular about watering his animals, and during the four years I employed him never lost one, although they were hard worked. The absurd idea that because camels are capable of existing for some considerable period without water they should be trained to abstain from it, or that they do not require to drink, certainly does not exist amongst any of the natives of India I have come into contact with, and it would be interesting to know if it really does so in Egypt. Possibly *The Daily News* correspondent hired camels from someone to whom the bazaar at Korosko had an attraction, and the story was told to cause delay. Anyone who has ever had to deal with natives of the East knows how common this trick is.

JOSHUA A. NUNN, F.R.C.V.S.
Principal, Lahore Vety. College.
Lahore, July 23rd, 1896.

SHYING.

By R. C. IRVING, F.R.C.V.S.

It is usual to connect shying with some defect of vision. As a theoretical explanation this has a plausibility which disarms doubt and leads one to accept as authoritative the oft repeated statement.

My experience of horses leads me to doubt whether the defective vision theory is correct in more than about 1 per cent. of cases. Nearly all young horses shy, but when properly broken and got into regular work cease to do it. Some are improperly broken and continue to shy more or less. A few are guilty of shying all their lives no matter what care is taken to form their habits.

If shying depended upon imperfect vision one would expect horses to shy in about the same degree at all kinds of strange or terrifying sights. This is not the case. Some horses will never face an engine of any kind. Some will stand perfectly still alongside a thrashing machine but always shy at a locomotive road-engine. Some horses shy only when passing a van or omnibus, and strange to say of these one will object to meet it whilst the other objects to overtaking it. A horse that will face a locomotive will often shy at a newspaper in the road or at a bridge over it. Whilst one horse shies dangerously on a country road and will pass anything in a crowded street, another is steady along the country lane and unsafe in town.

I cannot reconcile this behaviour with the theory of imperfect vision. It seems to me more a matter of temperament and habit. The defect in fact is in his brain not in his eye. I am confirmed in this belief by my experience of horses with defective eyes. Horses with partial or complete cataracts, with small or large corneal opacities behave in much the same way as before their defects were noticed. A quiet, good mannered horse remains as he was, and shying does not seem, when it exists, to get worse as the vision becomes more and more defective.

I note that Captain Hayes in his book on "Horse Breaking" does not treat of "shying" in his chapter on "Faults of Temper" but includes it in the chapter on "Faults of Mouth," and gives advice for its treatment. I conclude he considers shying a bad habit which has not been overcome by proper breaking and training. In this I agree, and whilst not denying that some few cases may be due to defective vision, I think we should class it as an exhibition of vice more than as a symptom of unsoundness.

EXTRACTS AND NOTES.

BACTERIA IN DISEASES OF THE SKIN.

Delivered at the Annual Meeting of the Dermatological Society of Great Britain and Ireland on May 20th, 1896,

By JOSEPH FRANK PAYNE, M.D.,

Let us consider first the meaning of the words "inflammation of the skin." Here it may fairly be said that the use of this word in dermatology is less open to objection than as applied in other departments of medicine. It has never been the custom to speak of simple dermatitis or inflammation of the skin as it is still the custom to speak of simple tonsillitis, laryngitis, peritonitis, and so forth. The skin being much more exposed to observation than internal parts, it has always been recognised that there are almost as many kinds of inflammation as there are causes of inflammation. Even in inflammations produced by external irritants, such as ammonia, cantharides, and croton oil, we see great differences in the effects of each. Still more is this true of inflammations attributed to internal causes, each traceable cause being found to produce a different effect; and though these effects may be conveniently classed together as inflammation we are not obliged to include them under the one name of dermatitis. But in the case of the larynx, the peritoneum, and other parts, the effects of various mechanical or chemical irritants, as well as of other and more obscure causes, are all described as laryngitis, peritonitis, and so forth. Some day, I have no doubt, these affections will all be discriminated according to their different causes, just as is the case with inflammations of the skin. At present the pathology of this organ is decidedly in advance of that of many other parts in regard to the subject of inflammation.

The etiology of diseases of the skin is so vast a subject that I can only now touch upon one branch of it—namely, the effect of micro-organisms. The opinion which is gradually gaining ground that many affections of the skin are due to bacteria has much *a priori* probability. As a surface exposed to the air the skin is constantly liable to the inroads of microbes of various kinds; moreover, in certain parts of it, even when quite healthy, bacteria are extremely numerous and may grow as simple saprophytes without producing any morbid condition. No other part of the body, with the exception, perhaps, of the mouth and the lower portions of the intestinal canal, harbours so many. We see, then, that the problem which arises when bacteria are found in morbid conditions of the skin is whether they are more or less harmless saprohytes or whether they are the cause of the morbid condition.

Connexion of Micrococci with Suppuration.

Since attention has been directed to this subject bacteria have been shown to occur in many cutâneous diseases, and among those most frequently met with are micrococci. Certain species of these, especially staphylococcus pyogenes aureus, staphylococcus albus, and the rarer species staphylococcus citreus, occur in large numbers in the common suppurative affections of the skin. By suppurative affections I mean impetigo, originally called impetigo contagiosa, ecthyma (if this be really distinct), pustular acne, folliculitis, sycosis, boils, carbuncles, whitlow, and so on. The same species are found in the secondary suppurations which complicate affections not originally suppurative, such as pustular or impetiginous eczema, pustular scabies, pustular phthiriasis, and also in neglected or festering wounds and scratches. The same organisms, again, have been found in the inflammations of lymphatic glands which accompany or follow many of these diseases, so that a secondary lymphadenitis may be regarded almost as a proof of the bacterial nature of the original cutaneous lesion. That these organisms are definitely the cause of suppuration is now established beyond a doubt. Numerous experiments on the human subject, dating from the personal experience of Garré, the cultivations and inoculations of Bockhart, Unna, and many others, have shown this to be true not only of suppuration generally but especially of suppuration in the skin. In saying this I do not exclude the influence of other factors in favouring the growth of these organisms. Such factors are the composition of the blood, its containing sugar or products of imperfect digestion, general cachexia, weakening the power of resistance in the tissues, special susceptibility, as in the skin of children, and so forth; but these agencies do not produce cutaneous suppuration apart from the presence of organisms, the only other cause, so far as we know, being the direct action of certain powerful irritants. Another important piece of evidence is the frequent connection of these suppurative diseases with suppuration of other organs. Some years ago (in the St. Thomas's Hospital Reports for 1883) I collected a number of cases of impetigo contagiosa and showed the frequent connection of these cases with such inflammations as conjunctivitis, otorrhœa, purulent rhinitis, ulcerative stomatitis, and even purulent vaginitis, as well as with suppurating wounds or scratches. In some cases the cutaneous suppuration was derived from the other affections, whilst in other cases it gave rise to them. This reciprocal relation to other forms of suppuration must have often been observed, but is not always recognised.

Streptococci are decidedly rare in cutaneous suppurations, having been observed only in a few cases of impetigo (not to speak of the streptococcus of erysipelas). The general property of streptococci also is to cause diffuse spreading inflammations, while these suppurations of the skin are remarkably localised, like staphylococcal lesions generally. If we regard it as proved that staphylococci are the immediate cause of these suppurations the question is not, however, completely settled. We have to deal with the remarkable fact that these organisms are present in or on the skin of many healthy people, living a purely saprophytic life without producing any pathogenic effect. They may be seen or raised by cultivation from such places as the dirt under the nails, the moist parts between the toes, dandriff or scurf on the scalp. and numerous other parts. In cultivations from these regions, as also from many skin lesions which are not suppurative, whatever other organisms may come up staphylococci are extremely likely to be among them. Even now, perhaps, dermatologists do not quite realise the ubiquity of saprophytic micrococci. In a blister produced by sunburn on the arm, and only of a few hours' duration, I have found commencing colonies of cocci. There can, I think, be no doubt that in most cases the cocci which produce suppuration are present in or on the skin beforehand and do not require to be introduced from without. In certain cases, however, the organisms may come from without, since it has been shown that staphylococci are occasionally present in dwellings, and still more frequently on clothes, though they do not appear to have, on the whole, an important ectogenic existence. Infection with pyogenic cocci from external objects is probably a real cause of suppuration, but it is much less important than was at one time supposed. Personal infection is now recognised by surgeons as a far more serious danger. Every person who has pyogenic organisms on his skin or external orifices is a possible source of danger to others and may give rise to suppurative processes in them, even though he himself may be quite free from inflammation. There is only one other possible source for the staphylococci of the skin. It has been suggested by M. Leloir that organisms contained in the blood may be excreted by the sebaceous and sudoriparous glands and thus produce local suppuration. Dr. Walsh has drawn attention to the excretion of toxic bacterial products. These explanations are quite possible, but cannot be said to be actually proved. I will not, therefore, discuss them further now.

With regard to the bacteria of the skin it is important to remember that they are by no means equally or uniformly distributed over the surface. There are certain regions where they are very abundant, forming saprophytic colonies. In other parts their presence may be only detected by the test of cultivation. One of the chief bacterial colonies is the hairy scalp, especially if scurf be allowed to accumulate there. Great numbers of micrococci and occasionally bacilli may be detected on staining the epidermic scales beside the yeast-fungus, saccharomyces capillitii (which, notwithstanding all that has been said, I believe to be a blastomycete). The species of bacteria are, of course, not determinable by observation alone. It is important to note that these organisms do not necessarily produce any inflammation in the part where they grow and multiply. Doubtless desquamation of the scalp, which is the natural or physiological defence of the skin against irritants, makes it possible for the living tissues to escape injury from the cocci which are flourishing in the external layers of epidermis. Other important nurseries for bacteria are the moist parts of the feet and the anal and perineal regions with the adjoining parts. In all these parts saprophytic bacteria are found, which, under certain circumstances, are capable of becoming pathogenic. As regards the scalp, remember that sound and ancient tradition in surgery which has always attached special danger to wounds or operations on the head, a danger expressed in modern language as that of bacterial infection, and one against which the modern surgeon takes many precautions, I wish, however, I could, with all deference, impress upon the antiseptic surgeon that if he or his assistant is affected with dandriff of the scalp there is a very definite risk of scattering pyogenic cocci over his surgical work, and against this risk it is no defence to clean his nails and sterilise his hands. Another evidence of pathogenic properties of organisms derived from the scalp is the occurrence of suppuration on the face, neck, shoulders, and chest, in cases of dry seborrhœa or dandriff, though the scalp itself may be quite free from such a lesion. The suppuration of comedones or common acne on the face I believe to be very frequently due to the descent of pyogenic cocci from the scalp. A special form of acne, independent of comedones, I believe to be also thus produced, and the occurrence of boils on the nape of the neck may be attributed to these cocci being worked by the friction of the clothes into the cutaneous glands. I have drawn attention to this source of purulent infection in my post-graduate lectures for some years, and the connection of pustular acne with seborrhœa was pointed out by Dr. Edward Blake in a paper published in this

journal. These relations, I should say, are quite different from the spread of seborrhœic eczema from the scalp, as described by Unna, though this also is an unquestionable fact. The good effect of antiseptic treatment of the scalp in any pustular affections of the face, neck, or shoulders is a strong corroboration of this view, and I venture to commend this fact to all dermatologists as an important practical hint in the treatment of such affections.

Impetigo Contagiosa.

This is a form of suppuration which requires special attention. It is curious how long is was before this comparatively common disease was allowed to have an independent existence. It was first recognised by the late Mr. Startin, and confirmed by Mr. Hutchinson and Dr. Tilbury Fox, that there was a contagious pustular affection to which the name of porrigo or impetigo contagiosa was given. It is fortunate that a distinct name was given, as otherwise the important pathological problem involved might not have been raised. It was, however, confused by the belief that there was another impetigo, the old impetigo sparsa, which was not contagious, and also by the fact that our disease is somewhat local, being commoner in London than in most places, so that it was long discredited by the Vienna school and was even supposed to be a misunderstood form of tinea. It is now, however, acknowledged to be a superficial suppuration caused by the implantation or inoculation of pus. It is, in fact, *inoculated*, not merely *inoculable*, suppuration. This is, I think, what constitutes its real definition, and its name might be inoculated staphylococcia. Now here a curious problem presents itself. Why is suppuration so rarely inoculated? and why is this inoculated suppuration so often, on the one hand, local or endemic, and, on the other hand, epidemic in its distribution? Suppurative diseases are frequent and numerous and the pus cocci are generally distributed, so that if inoculation rarely occurs it must be because some kinds of pus are less inoculable and others more so. Briefly, impetigo is more likely to arise from impetigo itself than from other suppurations, more from superficial suppuration than from deep suppuration, and more when the disease occurs in an epidemic form than from isolated cases. So marked is this difference that it is hardly an exaggeration to say that impetigo is distinctly contagious, while other forms of suppuration—acne, boils, whitlow, and so on—are only locally or partially contagious, so that their spread from one person to another is not an important clinical feature. This being so, one feels that it is hardly an adequate explanatiou of the fact of contagiosity to say that the pus contains cocci; so does the pus of the non-contagious suppurations; so do masses of dead epidermis where there is no suppuration at all. This is a difficulty which bacteriologists have to face. The difficulty can, I think, be got over by tracing the evolution of contagious impetigo, first in the individual case and then in epidemics. Evolution in the individual from saprophytic cocci is often distinctly traceable. I will quote one instance. A perfectly healthy, robust, well-fed girl, aged fifteen years, has an abrasion in the foot from a nail in the boot; this festers or suppurates through the saprophytic cocci present in that part. A crop of vesicles and pustules extends over the foot, and, in spite of treatment, continues unhealed for more than a month. Then, quite suddenly, nearly two months after the original wound, there appears an eruption of classical impetigo on the face, with pustules, crusts, and enlarged glands, which, had the history not been known, would have been thought to have been produced by infection from another case. Doubtless it was caused by inoculation with the finger nail. Now, had this happened in a crowded dwelling or school, with no precautions against contagion, an epidemic might have resulted. How often must the same thing happen in those epidemics of which we cannot trace the origin. A still more remarkable instance of a transformation of local into infectious suppuration is "football impetigo," which has been seen so often in public schools during the last two or three seasons that it appears almost like a new disease. Boys engaged in a tight "scrum" often get, as is well known, abrasions about the face and ears, and these becoming infected suppuration is set up, which may be transferred to other boys, and thus an actual epidemic is produced. This, again, may spread from one school to another, and even, as I have seen, to football clubs of adults, who must of necessity be robust and healthy young men. Among the best accounts of this disease I would refer to that by Mr. Armstrong of Wellington College, whose specimens were examined bacteriologically by Dr. Galloway. The result was to show that the organisms present, and apparently the only ones, were staphylococcus aureus and albus, which it is possible many of the football players might have been carrying about on their skin long before they were attacked by impetigo. The inference from the various cases I have referred to is that the same cocci show a great variability in virulence or infectiveness. We have first the condition of a simple saprophyte producing no pathogenic effect, next a condition of local inflammation (such as pustules, boils, and festering wounds), next local inoculability (one lesion giving rise to others in the same individual), and finally the condition of extreme virulence (where the contagion passes to other persons and seems to be implanted without any previous lesion of the skin.)

Eczema.

This disease has been by many dermatologists—Unna and others—attributed to the agency of bacteria. At first sight the bacterial theory of eczema seems open to many objections. The remarkable bilateral symmetry of this disease; the manner in which it spreads, not always continuously, but springing up in distant parts; the influence of constitutional predisposition and of derangements of internal organs of the nervous system; the great rarity or absence of contagion, with other features of the disease, make it something very different from a parasitic affection, such as ringworm, caused by germs alighting on the body from without. In this sense it is very difficult to believe that eczema is parasitic. You will not expect me to enter fully into this large subject. I only wish to show how far the bacterial theory agrees with some of the clinical facts of eczema, especially when compared with impetigo.

The most striking clinical fact about eczema as compared with other inflammations has always appeared to me to be this—that however produced in the first instance it always tends to persist after the initial cause has ceased to act—that is, to become chronic. A truly acute eczema, acute in the sense of coryza or tonsillitis, erysipelas, pneumonia, and so forth, a disease which rises to its acme and then declines, having a spontaneous limitation, is decidedly rare. When it does occur it is usually the outcome of a chronic eczema. In saying this we exclude the inflammations of the skin produced by thermal, chemical, mechanical, or living irritants; in a word, by traumatism. All these were included in Hebra's definition of eczema, but it is now for the most part agreed that it is better to give the traumatic eruptions another name. For the arguments in favour of this exclusion I need only mention the able exposition of Dr. Pye-Smith in his "Introduction to the Study of Diseases of the Skin." Nevertheless, there are cases in which a primary traumatic lesion results ultimately in true eczema when the subject is what we call predisposed. The prolonged action of irritants may have this result, as with inflammations starting from the friction of a ring or thimble on the finger, and those caused by occupation, as in grocers and washerwomen. Moreover, in persons whom we call

predisposed a traumatic inflammation of one part, say of one hand, may give rise to a similar affection of the other corresponding part, that is, of the other hand, as I can say from personal experience. Whatever name may be given to these primary lesions the secondary lesion is indistinguishable from true eczema. In this respect, however, traumatism is only comparable to the other assigned causes of eczema. Most of us believe that a nervous disturbance, more correctly, perhaps, an angio-neurotic disturbance, may be the cause, since we sometimes see a sudden nervous shock followed in a few days or in a few hours by a classical eczema. The same thing happens in those cases, which cannot be ignored, where patients ascribe their outbreak to a digestive disturbance.

In all these cases the effect is much more persistent than the cause, and whatever name be given to the primary cause the ultimate effect is eczema. There seems, then, to be some secondary factor coming in and converting all these original disturbances into eczema and making it persistent. What is this secondary factor? It is suggested that it is the action of bacteria, modifying and keeping up the inflammation even if they do not start it. The current explanation of the above facts is "predisposition," or, more precisely, a special "vulnerability" of the skin. It is worth remarking that precisely the same explanation was formerly given for tuberculous and so-called scrofulous diseases, though we now know that while these influences have some weight an essential feature in the tuberculous process is the bacillus of Koch. So, then, in eczema, even if a certain vulnerability of the skin called predisposition may be necessary to its production, this is no argument against the assumption of specific microbial causes. On the whole, the hypothesis that there are such microbes originally present in the skin, and that when their activity is heightened by the original disturbance of nutrition eczema results, seems the most plausible. In children more especially the original lesion may give rise to suppuration, because pyogenicoia present in the skin find in them favourable conditions of growth. In adults this is less likely to happen, because their skin is less favourable to the growth of those cocci; but whether in children or adults a persistent inflammation may remain attributable to other microbes than those of suppuration, though equally present in the skin beforehand. This inflammation we call eczema. The cases of impetigo and of eczema appear to me, therefore, to run parallel. Both are quite parallel also, I may say, to the cases of traumatic septic diseases generally. In all these the secondary affections called inflammations are mainly produced by bacteria, whatever may have been the cause of the original trauma. There is another point in which impetigo and eczema are analogous. In the latter, as in the former, we often see local infection especially proceeding from certain centres where bacteria abound. The three great bacterial nurseries of the skin, as I before pointed out, are the scalp, the feet, and the perineal region, with adjacent parts. From these three centres at least eczema may extend and become very general. In the first place we may have the seborrhœic eczema, at first described by Unna, and now an accepted form. Starting from a seborrhœic condition of the scalp, the eczema may invade the neck or face and then spread to other parts of the surface. This, which was the first instance of an eczema shown to have infective properties, might be called, briefly, "descending eczema." We may have, also, an "ascending eczema," spreading from the lower leg, a part where local conditions favour the production of chronic eczema, and close to the nursery of saprophytic bacteria in the foot; this also may in some cases spread upwards to other parts of the surface and even become very general. I might quote cases, but I think it is generally accepted that chronic eczema of the lower leg may give rise to a more general and acute eruption, sometimes nearly universal. More rarely chronic eczema of the anus, scrotum, or perineal region gives rise to an extension over a large part of the skin. This might be called "centrifugal eczema." These three types—"descending," "ascending," and "centrifugal"—may, I think, be clearly recognised. Doubtless there are other similar instances, such as that spreading from the axilla, and ale may be merely instances of a more general law. Perhaps, as Mr. Hutchinson had insisted upon, all inflammations of the skin, or, at all events, a great many, are locally infective, but this local infectiveness seems almost to imply the presence of living organisms. In all the above cases we seem to have the same succession of stages which we saw in staphylococcia or impetigo. First, the saprophytic stage of bacteria, which, secondly, by cultivation in a local focus of inflammation acquire pathogenic properties so as to be able to affect portions of skin previously intact. Rarely, however, does the cause of eczema acquire sufficient virulence to produce contagion from one person to another.

Although actual contagion is so rare there must be, however, if eczema be a distinct specific disease, some means of transmission by which the disease is kept alive and passed from one person to another. Without this the hypothesis of a specific cause of the disease is incomplete. It seems possible that there may be transmission, but of a different kind to that which is usually called contagion. If the pathogenic microbe of eczema were originally saprophytic it might be transmitted in that stage of development without producing any symptoms, and the occurrence would thus escape observation. In one form of eczema at least I believe that this mode of transmission does occur, and has indeed been traced by Unna—namely, in the so-called seborrhœic form while in its primary stage of seborrhœa or dandriff. Many facts show that the latter affection is contagious in families and otherwise, and if, as Unna has proved, seborrhœa is one of the starting-points of eczema, then the germ of the disease, though not the disease itself, is transmissible. Thus the continued existence and spread of this form of eczema at least would be explained.

On the whole, the theory that eczema is due to saprophytic organisms, which take advantage of some disturbance of nutrition to cause inflammation, and thus develop infective properties, seems to me best to meet the difficulties of the case. But, to quote a phrase of Harvey, it is not enough to show that an explanation is possible, we must also prove that it is what actually occurs. We ask, then, Have the microbes of eczema been shown to exist? This is a difficult point. There is no difficulty whatever in finding bacteria, there are only too many of them, but the problem is to pick out those that are truly pathogenic. The elaborate researches of Unna on the cryptogamic flora of the skin have shown the existence of a large number of species of microbes. His results are only amenable to this criticism, that the method employed, that of cultivation, is almost too delicate, not distinguishing between bacterial forms actually living on the skin and germs accidentally present as they might be on any surface exposed to the air. The abundance of the particular species found should always be taken into account. Again, experiments on the pathogenic properties of these organisms when inoculated on the skin of the ower animals are less conclusive than in the case of visceral disease on account of the peculiar structure of the human skin.

I form no positive conclusions and express no definite opinion as to the precise importance of these organisms; my object is rather to draw attention to the problems which present themselves, among which are the following: Are these organisms saprophytic inhabitants of the skin or are they introduced from without? Are they capable of producing eczema in the same definite sense as the microbes of erysipelas, anthrax, or tinea produce those diseases? Is some preliminary disturbance of nutrition necessary for them to exert a pathogenic effect?

In other words, they are primary or only secondary causes of disease? Can cases of eczema be found where the lesions are quite free from bacteria? And may these, therefore, be only accidental concomitants which might be removed without the morbid process coming to an end? Lastly, do the results of treatment support or discredit the bacterial theory? However these questions may be answered there will always remain the question of contributory causes: the condition of the soil—that is the skin—its age, its inherited properties, its state of nutrition, the influence of the state of the blood, the condition of the walls of the bloodvessels—whether such as to favour exudation or the reverse—the influence of the nervous system in lowering or heightening the resistance of the tissues.

The bacterial problem, even if solved, might not produce a total revolution in our way of looking at eczema or in our methods of treating it. But as a dermatological problem it seems to me the most important of the day. Much remains to be done before it can be finally solved. I beg to commend its study, therefore, to members of this society, hoping that the new and exact methods of bacteriology, controlled always by clinical and pathological investigation, may lead us in the end to some solid conclusion.—*Lancet.*

THE PUBLIC HEALTH ASPECTS OF TUBERCULOUS DISEASES.

By James Niven, M.B., B.C.Cantab.
Medical Officer of Health to the City of Manchester.

The infectious nature of tuberculosis had been clearly demonstrated by Villemin, followed by Chauveau, Cohn, and Solomonsen. The discovery of the tubercle bacillus, however, by Koch, and the study of its behaviour and distribution, both inside and outside the body, have greatly extended and have delimited both prevention and treatment.

It has been doubted whether our attention should not be directed rather to general hygienic improvements than to specific preventive measures.

Tuberculosis would undoubtedly be much diminished if the population could be put under favourable sanitary conditions, which would also do much to lessen other diseases; and our efforts to secure for the dwellers in our cities pure air, and for the homes dry, well ventilated, well-lighted, and well-appointed houses, should never be relaxed. To attain such conditions as would render individuals reasonably safe would, however, be probably a far greater task than to obtain immediate and sufficient measures of prevention. Moreover, in face of the destruction of human life which is going on at present, both systems of procedure are required.

Preventive action should take something like the following shape:

1. Information as to the precautions needing to be taken should be distributed to every home from time to time, until a sufficient body of opinion is created on the subject.

2. Tuberculosis attended with discharge, should be made a notifiable disease. This would entail additions to the sanitary staff, including probably a qualified medical assistant.

3. Hospitals for consumptives are at present foci whence a practical knowledge of preventive measures radiates.

It may be doubted whether the time is ripe for the establishment of such hospitals at the public expense. If this becomes possible, such hospitals will greatly aid in reducing the amount of infective material in circulation.

4. To prevent the milk from tuberculous cows remaining the source of danger which it now is, we require a systematic examination of cows in all cowsheds by competent veterinary inspectors. Two assistant veterinary surgeons have recently been appointed in Manchester for this purpose, and already five cows have been slaughtered as tuberculous and found to be so. This appointment is one which I have had much at heart. The milk of suspected cows will also be examined bacteriologically where the grounds for condemnation are otherwise not perfectly clear. The veterinary surgeon is now authorised by the corporation to examine suspicious cows with tuberculin.

5. All meat and pork should be thoroughly examined; hence no meat should be taken direct from a private slaughterhouse for sale. The presence of tuberculous glands in meat or pork should suffice to condemn it. In the case of animals killed at the public abattoir this criterion is not required. It is the more necessary that it should be rigorously applied in other cases.

6. Cats certainly, and fowls possibly, are a serious source of danger. More attention should be given to the diseases of which cats have died—and, indeed, the cause of death of all our domestic animals should be more fully investigated.

Dr. Grimshaw, Registrar-General for Ireland, said with reference to the remark that it seemed difficult to believe butchers would sell tuberculous meat, that he firmly believed that, with few exceptions, butchers would sell anything. Great dependence must be placed on general hygienic measures. As to compulsory notification for this disease, it would be very desirable, but, in consequence of the doubts and difficulties in the early stages, quite impracticable; moreover, medical advice was not sought until the disease had made considerable progress. Compulsory isolation would also be desirable if practicable, and if it could be carried out the disease might be stamped out as leprosy was. Dr. Grimshaw then referred to the necessity for the compulsory use of properly-supervised abattoirs, and concluded by emphatically recommending the establishment of hospitals for comsumption as a first step towards isolation and cure of the disease in its early stages.

Dr. Drysdale gave some interesting statistics on the subject of phthisis pulmonalis. He mentioned the fact that many physicians of the far past had believed in the contagiousness of phthisis, amongst them Galen.

Dr. H. Cooper-Pattin (M.O.H. Norwich) laid stress upon what a health officer can do, namely: (1) Offer disinfection of all rooms, etc., after a death from phthisis; (2) rigorously inspect dairy cattle; (3) agitate to obtain better control over the provision of sufficient light and air space in and about houses and to get "rookeries" abolished; (4) support the provision of hospitals and the treatment of phthisis; (5) educate the growing population respecting the risks of infection. He attaches most importance to be last.

Sir Charles Cameron, whenever he could, always disinfected the dwellings and clothes of those tuberculous patients who were removed to hospital or who died. He believed he had full power given him to do this by the Public Health Act. He agreed with the Registrar-General for Ireland that compulsory notification was impracticable; but the disease might be voluntarily notifiable, payment being given for notification. He believed that under the Public Health Act the sanitary authority had power to deal with any contagious disease, even though not notifiable.

Dr. Harold Scurfield (Sunderland) considered that notification would be of use, even though not made in the early stages, for then the disease would not usually be infectious. He strongly urged that all hospital and asylum contracts for milk should be given to farmers who had submitted their cows to the tuberculin test.

Dr. Groves (Carisbrooke) emphasised the necessity of

teaching the people that tuberculosis was a contagious disease.

Dr. MAXWELL ROSS (M.O.H. Dumfries) thought Sir Charles Cameron correct in his view that the medical officer of health had power to order the disinfection of houses that had been occupied by phthisical patients. He believed this to be correct so far as concerned England, Scotland, and Ireland, but the London Health Act (1891) appeared not to give such power to the medical officer of health unless the disease was added by special resolution to the list scheduled for notification and prevention.

The following resolution was then proposed by Dr. Niven, seconded by Dr. Scurfield, and carried *nem. con.* :—

"That cases of tuberculous disease in man attended with discharge be included among the diseases to be notified under the general or local Acts as the case may be.—*Brit. Med. Journal.*

[Abstracted from a paper read in the Section of Public Medicine of the meeting of the British Medical Association at Carlisle in July.]

DISCUSSION ON "SWINE FEVER,"

At the Yarmouth meeting of the National Veterinary Association.

The PRESIDENT: We will now proceed with the discussion of Professor McFadyean's paper and I will call upon Mr. Clement Stephenson to open the discussion.

Mr. CLEMENT SEEPHENSON: Mr. President and Gentlemen,—The completeness of Professor McFadyean's paper renders my duties light. I need not occupy your time by going over the symptoms and post-mortem appearances of the disease. Unfortunately most of us are familiar with them; but there are just one or two points that I will refer to. In the list of symptoms given it is stated that "the respiration is not materially quickened," and no mention is made of cough. Now, in my experience, I have found many cases in which the respiration was considerably quickened, and many cases in which a cough was a marked symptom.

Morbid Anatomy. In no disease that I am acquainted with are the post-mortem lesions so varied, or are so many structures implicated. The disease, since our first acquaintance with it, has become somewhat modified in its character. At one time it was exceedingly common to find the lungs, pleura, and pericardium extensively implicated. Portions of the lungs were often consolidated, just like the pleuro-pneumonia lung of cattle, and there was effusion into the thorax accompanied by adhesions and thickened pericardium. These cases still occur, but not so frequently as formerly. In connection with this part of the subject, I may mention that in April of this year Professor Brown wrote and asked me to send any specimens that I came across in which the lung lesions were present without the bowel lesions. A few days after receiving that letter I was requested by the Board of Agriculture to investigate a reported outbreak of swine-fever. I found three sows and four store pigs on the premises. The store pigs were all very ill, the skin was discoloured, the ears were blue, there was cough and difficult breathing, but with only slightly increased temperature. I bought and slaughtered the store pigs. In three the lung lesions were well marked, portions were hard, pleura thickened, with effusion into the thorax and abdomen, particularly the latter, and in only one pig were there any bowel lesions, namely muco-enteritis and submucous hæmorrhagic spots. I sent the viscera to the laboratory of the Board, and wrote to Professor Brown that I had done so. In the course of a few days I received a letter from Professor Brown, in which he said "the condition was decidedly typical, exactly what we used to find in every case, with and sometimes without bowel lesions. Now the state is rare, and in none of our recent experiments have we produced it, although both Klein and I got it in all our inoculations in the late seventies. In the diseased part of the lung there is collapse. A very distinct broncho-pneumonia with enormous exudation of catarrhal products precisely as we have in pleuro of cattle, but the microscope does not reveal any characters which would suffice to distinguish the disease from ordinary broncho-pneumonia with collapse."

Diagnosis. I agree with Professor McFadyean that when only one pig is affected, and its past history is not known, the diagnosis is difficult and uncertain, and further that the inspection of markets is of little value. I cannot agree with him and say that the inspection of markets is a farce, because I do know that disease may be and has been detected in markets, and besides, the very fact that in certain markets the pigs are inspected acts as a deterrent and prevents diseased pigs from being exposed for sale. (Cheers). As to diagnosis after death, it is as a rule a simple business, but I have made lots of post-mortems on pigs that have died after only a short illness, and when I was morally certain that they had suffered from swine-fever, yet all I could find was gastritis, or perhaps muco-enteritis.

Prophylaxis. Professor McFadyean has supplied us with tables showing the progress which swine-fever has made from 1879 to May, 1896. They are painful reading, and the less said about them the better. As a Member of the 1893 Swine Fever Committee, and as one who gave evidence before it, I object to Professor McFadyean saying that "probably everyone will admit that the difficulty of stamping out swine-fever was greatly under-estimated by those who urged that it should be taken in hand by the Board of Agriculture and dealt with in the same manner as pleuro-pneumonia." In the first place, the Swine Fever Committee did not recommend that the disease should be dealt with in the same manner as pleuro-pneumonia, and the difficulty of stamping out swine-fever was not under-estimated. But let us see what the report of the Committee really was. I will just read one or two of the paragraphs of the Report that was made. Paragraph 29 said, "In answer to the question as to whether any further measures could be taken for the prevention and extirpation of swine fever, there was a remarkable uniformity of opinion on the part of the witnesses. The invariable reply was to the effect that the work of exterminating the disease should be placed in the hands of a Central Authority responsible for the efficient execution of the Acts and Orders."

"31. It was agreed, on the part of nearly all the witnesses, that the slaughter of diseased and in-contact swine would not be sufficient to get rid of the disease, and several witnesses were of opinion that if the choice were to be between the system of either slaughter or of restrictions on movement, the latter would prove more efficacious. The evidence was, however, to the effect that slaughter, combined with restrictions on movement and the employment of thorough cleansing and disinfection, constituted the means most likely to result in success.

32. In reference to the restrictions on movement of swine, some evidence was given that the definition of very large areas was unnecessary and might be objectionable, owing to the interference with trade, and to the inconvenience that would result therefrom, whilst, on the other hand, evidence was also given showing the unmistakable advantage of large areas in the case of an outbreak.' And under "Conclusions," paragraph 36 said, "We are satisfied, from the evidence submitted to us, that, owing to the impossibility of securing uniform action under the jurisdiction of the local authorities, swine-fever cannot be extirpated unless under the direc-

tion of a central authority." Then, in "Recommendations," paragraph 47 (A), says, "The administration of the Contagious Diseases (Animals) Acts throughout Great Britain and Ireland, so far as they relate to slaughter, compensation, and regulation of movement of swine in herds or on premises, where an outbreak of swine-fever has occurred, or in the surrounding area, shall be subject to and under the direction of a central authority in Great Britain and Ireland respectively." You will note that not one word was said about dealing with swine-fever in the same manner as pleuro-pneumonia had been dealt with; but much is said as to the importance of the central authority being made responsible for the efficient execution of the work, and the importance of restrictions upon movement. Gentlemen, it is no use attempting to disguise the fact that the Board's failure to stamp out swine-fever, or even to suppress it in any form, is simply because they have never yet set about the work as though they intended to succeed in their efforts. (Hear, hear.) Gentlemen, the Board undervalued their enemy; the orders given were never calculated to stamp out swine-fever. To succeed in stamping out swine-fever the movement of swine must be prohibited, not in small isolated places, but in large areas, whole counties, or, better still, all over the United Kingdom for a given time. Wherever disease is known or suspected to exist there must be a very wide cordon drawn around the place, and cattle plague restrictions put in force. The markets and fairs order should also be put in force again, so as to ensure that all swine that had been shown in a market or fair were slaughtered within three days after such exposure. No one knows better than I do that restrictions, to be effective, must be irksome and press hard upon someone. It is difficult to understand why the Board have not more extensively prohibited the movement of swine. Of course, their veterinary officers, and Major Tennant as well, know perfectly well that slaughter without proper restrictions upon movement is of no avail to stamp out swine-fever. Quoting from the last paragraph on page 29, Professor McFadyean says, "Unwillingness to face the outcry is no justification for continuing a policy that is manifestly futile and yet enormously expensive." Gentlemen, if the Board are afraid to face the outcry against restrictions, and if those interested in the pig trade will not co-operate with and assist the Board in carrying out the restrictions upon movement in an efficient manner, then the sooner the slaughter of diseased and in-contact swine is discontinued the better. We can be no party to the wasting of hundreds of thousands of pounds. Let us save what is called "the butcher's bill," and the other expensive machinery that has been called into existence in connection with swine-fever. On the other hand, if the Board are determined to carry out successfully their crusade against the disease, and I, for one, trust that they will, then it must be perfectly understood by all concerned that it can only be done by proper restrictions upon the movement of swine. Gentlemen, as members of a profession who have made a special study of the laws by which infectious diseases are either spread or suppressed we can be justly proud of the splendid work done by the Veterinary Officers of the old Privy Council and the more recently formed Board of Agriculture. Thanks to their wisdom, cattle plague, pleuro-pneumonia, and foot and mouth disease, were suppressed and banished from the United Kingdom, but I regret to say we can only look with sorrow at the "*manifestly futile and yet enormously expensive*" policy of the Board in connection with Swine Fever." (Cheers).

Mr. TRIGGER: Mr. President and Gentlemen, I agree with Mr. Stephenson in not accepting, with respect, the conclusions that Professor McFadyean has come to with regard to lung lesions. Going back to the seventies, about the time that swine-fever was first supposed to be a contagious disease, the lung lesions were in my opinion distinctly diagnostic. I will not recapitulate them after the able manner in which they have been described by Mr. Stephenson, but in those years it was the rule to find lung lesion, and now I admit it is the exception. With regard to the symptoms of respiration, I am entirely with Mr. Stephenson there. In many cases when I go to inspect a number of pigs, I have found that the abdominal cough was almost the only thing you could detect, and I attach the greatest importance to the absence of cough. I say with a perfectly unbiassed mind that you may in many cases almost be satisfied that you have an outbreak of swine-fever even before you see the pigs, because when the man goes into the place and stirs up the pigs, by hearing the usual snuffling and the cough you can recognise it at once. In connection with that, it must be borne in mind that there is a morbid desire for liquid. If there is any fluid excreta in the yard, pigs that will not touch the nice clean swill in the stye will go for the filthy fluid excreta that they find in the yard. This also is a matter that I have noticed for some twenty years. I simply mention these symptoms to emphasise the fact that I do attach great importance to the symptom of abdominal breathing, and I also attach great importance to the presence of cough. I do not say that they are both essential to prove an outbreak of swine-fever, but I do say that they are very frequently found, and that they are distinctly diagnostic. I want now to touch upon the statement that the inspection of markets is a farce. I do not agree with that. I quite agree that the inspection of markets only for pigs may be so. Let me illustrate what I mean.

Some eight or nine weeks ago, on a very busy day, I had not time to walk round our market, of which I am veterinary inspector for the local authority or borough, and although it is not part of my duty to inspect unless called in by the police, still, knowing that a large number of store pigs had found their way to the market, and not having time to walk round, I drove round, more to see the people in the Smithfield than with any other object in view. Driving through the portion of the market devoted to store pigs, my attention was directed to nine pigs lying in a stye, which I immediately viewed with great suspicion. I jumped out of my trap, looked over the pen, stirred them up, and got them up with the snuffling that I have described, and as soon as they were up they began to cough. It seemed to me that they were a very suspicious lot of pigs, to say the least. I called the police-sergeant on duty at the gate and instructed him to take possession of those pigs. We seized the pigs and all the store pigs in the market, only allowing those going to slaughter to go. The local authorities telegraphed with regard to the pigs we had seized to the Board of Agriculture, with the result that I was instructed to slaughter so far as was necessary, and I found swine-fever in the early stages.

With regard to the slaughter of pigs I thoroughly agree with and fully endorse the remarks of Mr. Stephenson that the only way to stamp out swine-fever is to deal with it more as you would deal with an outbreak of rabies than as an outbreak of pleuro-pneumonia. I believe you must put the whole country, or a very large portion of it, under restriction in order to stamp out swine-fever. Playing with it as is now done, and even making counties infected areas, in simply absurd, because the moment you are over the line you are almost in contact in many cases. It must be a specific area and should not be appointed by a county. Then I do think the marking with the broad arrow on pigs is not quite sufficient. To say the least of it, it is possible to wash the mark off after they have gone out of the market, and I am not at all sure that it is frequently done by the people who purchase the pigs. The principal agent in the spread of swine-fever, as you all know, is the castrator, the man who goes round for the purpose.

I am quite satisfied that such a thing can only occur

when antiseptic precautions are neglected, and that they would never be neglected by any Member of the Royal College. The facts that I have laid before you are those resulting from practical observation rather than founded upon the scientific lines laid down by Prof. McFadyean. (Cheers.)

Mr. F. L. Gooch: There is scarcely a symptom in the live state that is really diagnostic of swine-fever; because even with snuffling you may have it in cases of pneumonia or any other lung lesion; you may have it with different cases of diarrhœa or, on the contrary, constipation; you may have it with other diseases, and there is scarcely any diagnostic symptom.

With regard to the inspection of markets being a farce it all depends on by whom it is carried out. I unfortunately live in a district where the inspection of markets is entirely carried out by a man who is not a veterinary surgeon, and I think the inspection carried out in that district is a farce. It is carried out by a police officer. I think we frequently find we get the disease carried about, or fresh outbreaks due to the boar pig. We had a very large outbreak in our district, and we traced nine cases to sows going to a boar which, upon slaughter, presented old healed ulcers. I was very glad to hear Mr. Stephenson, in his opening remarks, say that no good can result unless we have large closed areas, and I was glad to hear that such areas should embrace the whole of the country if necessary. I do not think we shall get any plan successfully taken up by the Board until we have the whole of Great Britain more or less as a restricted area; then swine-fever may be stamped out. The Professor, on p. 28 of his paper, expresses the opinion that he does not think the delays are caused by the Board of Agriculture, nor does he think that the delay involved in sending the viscera to London can be held responsible for the spread of the disease, "since the removal of the pigs from the premises is forbidden, pending the decision of the officer of the Board." I think that it is very destructive to the stamping out of the disease, particularly when the case occurs at the end of the week. I have on several occasions noted that swine-fever has been reported to the police-sergeant on the Saturday morning. The police-sergeant has wired immediately to the Board of Agriculture. If it has been in the afternoon, no officer of the Board has been present, and as there is no chance of getting it on the Sunday, in all probability that telegram is not seen by an officer of the Board until Monday. The local veterinary surgeon frequently does not get his orders until 7.30 or late on Monday evening. He has to wait until Tuesday morning before he can take a step, and that pig has to lie from Friday night until Tuesday morning before the veterinary surgeon sees it, and in hot summer time it is impossible for the veterinary surgeon to come to any direct diagnosis in that case. I think another thing that could be done by the Board, where they differ with the diagnosis of the local veterinary surgeon, is to let him know the result. A veterinary surgeon is called in; he declares it not to be swine-fever; he sends the report to the Board. He will go through the village at the end of two or three days, and find out that he has been wrong, that the Board of Agriculture have sent down a travelling inspector, and condemned it as a case of swine-fever, and the case is taken over in the usual way. It would be only courteous on the part of the Board to likewise let the veterinary surgeon know at the same time as it does the travelling inspector, and to give him the reasons why his opinion is not taken. We are all liable to mistakes, and even the Board may occasionally make mistakes. (Applause.)

Mr. J. D. Overed: I am quite of the opinion of those gentlemen who said that the symptoms of swine-fever, as existing fifteen or sixteen or more years ago, were diagnostic rather of enteritis than of any other disease. We scarcely saw a post-mortem at that time without seeing that the lungs were very highly inflamed, and generally speaking the disease then assumed more of an acute character than it does at the present time. Now I think we may all agree that there are cases, the symptoms of which are not at all diagnostic; they are not at all marked, and you have to exercise a great deal of care and judgment before you can satisfy yourself as to the real character of the disease. You will see some cases of wasting, and I may say with regard to that, that there appears to be sympathy between the mucous membrane of the alimentary tract, and the skin of pigs suffering from swine-fever and I have scarcely known a case where the disease assumes the subacute form in which we do not find the skin presenting a dirty, dead appearance, sometimes so much so as if the swine themselves had been lying in a dirty yard, and the dirt had dried in. Occasionally I have seen a few isolated spots, not eruptions, as large perhaps as a sixpence, on different parts of the skin. With that you will see, perhaps, or you may not, diarrhœa, and you may or you may not have a cough, but I may say, with reference to the cough and the post-mortem appearances, recently I have had some little experience with regard to swine-fever, and in all the post-mortems I have made in cases of swine-fever in which there could be no mistake as to the nature of the disease I have not seen a single case of pneumonia. As breathing is concerned as a diagnostic symptom of swine-fever, in my district I may say I cannot agree with that in any way. It has not been observed by me, and I think, although we find our opinions differ in this respect, we ought not to hesitate freely and fully to express them, because that appears to me to be the most likely means of arriving at something like a reliable opinion. If one gentleman goes to a place and finds an animal suffering from swine-fever presenting a certain line of symptoms, he is quite satisfied that that is a case; another man goes to another place and finds those symptoms are not precisely the same, and he fails to recognise it. In this case I may say the most marked symptom not generally found on post-mortem of pigs that were slaughtered or died from swine-fever, is that they have had symptoms of active congestion, and less frequently acute symptoms of inflammation of the mucous membrane, the stomach, and bowels, but in by far the larger number of cases there is no appearance whatever, as far as I can see, of ulceration. In nine cases out of ten you may make post-mortem examinations on cases of swine-fever, and especially of animals that die quickly, and you will see no ulceration in the intestine, and even in Professor McFadyean's excellent paper you will find on careful examination that there are not above two cases out of the twenty illustrations he gives you in which ulceration is found in the stomach. I am open to correction, but I think there are only two cases. Of course that is an unmistakable symptom when you do see it, but you must not pin your faith on the presence of ulceration. Then briefly with regard to prophylaxis. I am quite of opinion that isolation is necessary combined with slaughtering, and I am also further of opinion that disinfection is essential; but these matters to have the desired effect must be carried out promptly and fully. I believe the essence of success is the promptness with which these measures are carried into effect, and I do feel most strongly that, under the present circumstances, the provisions which the Board of Agriculture have made for the restrictions of swine-fever, and its control, are by no means carried out in the way that is likely to serve the object in view. (Applause).

Mr. John Hammond: The Board of Agriculture or the veterinary inspectors have somewhat altered their views of swine-fever since I first began slaughtering, and I feel sure that a great many animals were slaughtered entirely for their lungs when we first began. There was no ulceration, there was very little amiss with the bowels. Now it is very seldom indeed that we find a lung affection, and I am inclined to think they are right

in their diagnosis, because in some cases I have found the lungs diseased and I thought it was swine-fever, and there were several animals affected in the herd and the lung was sent up, there being also slight inflammation. It was proved not to be swine-fever through the other animals recovering that had been ill. I feel rather doubtful if Professor McFadyean's suggestion as to areas were carried out whether this disease would be of short duration. I am inclined to think we should still have a very serious disease to combat. Professor McFadyean lays special stress upon tracing the source of contagion. This is a most important matter, but it is also most difficult. I have just been engaged in a case where about sixty pigs were slaughtered or died. Of course I put the usual question to the farmer: "How long have you had these pigs on the place?" and he says, "They are all of my breeding." "Have you had dealers on the place?" "No, I never had a dealer on the place; I send all my pigs to the market, and they are always sold for what they fetch. None of them are brought home." I questioned the man who took the pigs to the market. He said, "I take the pigs to the market, I leave them there, I do not go into the pen, and I come away directly." This farm was nearly half a mile from the road, so that there could be no contact in that way, and it was a considerable mystery. But the farmer wrote to me a short time ago and said, "Do you think the castrator would bring the disease here?" I wrote and said, "In my opinion it is quite possible." With regard to inspecting markets, it has worked well in Norfolk. I know in several of the markets swine-fever has been detected; in my district, at Holt, a very serious outbreak was detected. A farmer had previously sold a great many animals in different directions, and swine-fever broke out in the various places, and I think the inspection worked well in that instance.

(To be continued).

CHLOROFORM FATALITIES

The republication by *The Lancet*, in book form, of the report of the commission appointed by the proprietors of that Journal to investigate the subject of the administration of chloroform and other anæsthetics from a clinical point of view, together with the reports of the first and second Hyderabad Chloroform Commissions (*Lancet* office, 4to., pp. 193), serves to recall attention to a subject which is almost as important to patients as to surgeons. In 1888 it was announced as a discovery, or rather as a confirmation of a view previously held by the Edinburgh school, that death from chloroform always commenced with failure of the respiration, never with failure of the heart, and that if the breathing were watched by the administrator the pulse might be neglected. This statement was put forward, as a result of experience in India, by Surgeon-Lieutenant-Colonel E. Lawrie, of Hyderabad; and at his instance the Government of the Nizam appointed a commission, known as the first Hyderabad Commission, to inquire into the subject. The commission instituted a series of experiments upon dogs, from which they concluded that it was impossible for chloroform vapour to kill a dog by acting primarily upon the heart, and that death from chloroform narcosis in dogs was absolutely avoidable and ought never to occur.

Neither the experiments made by the first commission, nor the reasoning upon which its conclusions were based, were held to be quite satisfactory, and it was felt that further inquiry was necessary. For this purpose, his Highness the Nizam consented to defray the cost of a second commission, of which Dr. Lauder Brunton was the most prominent member. As a result, certain conclusions were formulated; it will be sufficient to quote two:—

The administrator should be guided as to the effect entirely by the respiration. His only object, while producing anæsthesia, is to see that the respiration is not interfered with.

The commission has no doubt whatever that, if the above rules be followed, chloroform may be given in any case requiring an operation with perfect ease and absolute safety so as to do good without the risk of evil.

As experiments upon men and women could not be undertaken, the proprietors of *The Lancet* appointed a commission, the direction of which was placed in the hands of Dr. Dudley Buxton, for the purpose of obtaining whatever evidence might be procurable with regard to the causes of death in all recorded cases. *The Lancet* Commission investigated and analyzed all published accounts of chloroform fatalities, and sent circulars of inquiry to a large number of practitioners and hospitals, British, colonial, and foreign. All these were carefully examined in such a way as to eliminate, as far as possible, the personal beliefs of the examiner, and to preserve only what had been placed on record by competent persons who were present when death occurred. According to this testimony nearly one-third of the whole number of fatalities, the recorded opinion of those present was in favour of the result having been due to failure of the heart, rather than to failure of the respiration.

The shadow of an occasional death, which, in the present state of knowledge must be described as unavoidable, will probably continue to overhang the beneficent influence of chloroform. Whether the discrepancy between the results of clinical observation and of laboratory experiment may be due to differences of climate and temperature, or to differences between human beings and dogs or monkeys, it would at present be impossible to decide; but it must be remembered that the animals elected for the experiment would usually be healthy, while the man requiring an operation would often be diseased. *The Lancet* report reminds us, moreover, that deaths during surgical operations, not necessarily of a severe kind, were known long before the introduction of anæsthetics, and were vaguely attributed to "shock," a cause which cannot be supposed to have disappeared, and which may with high probability be attributed partly at least, to emotional or other moral influences.—*The Times.*

FATAL ACCIDENT TO A V.S.

The adjourned inquiry into the cause of death of Thomas Fawthrop Fyrth, veterinary surgeon and bone-setter, lately residing in James Street, Bradford, was resumed at the Town Hall, August 4th, by Mr. J. G. Hutchinson, borough coroner. Mr. Ward (Atkinson & Ward) again watched the proceedings on behalf of the executors of the deceased, and Detective Talbot represented the borough police. The previous inquiry was adjourned in order that a post-mortem examination might be made, and also to give the borough police an opportunity of inquiring into the circumstances attending the deceased's death. In the evidence previously taken some discrepancy appeared as to the time the deceased was alleged to have fallen down some steps.

Harry Goodwin, who slept in the deceased's house on the night of the occurrence, was recalled, and stated that he did not remember Mrs. Ward asking him what time the deceased fell, and he did not tell her the deceased fell about ten o'clock. He fell about midnight.

Jane Ellis, widow, stated that she had kept house for the deceased for about ten years, but went to her own home in the evening. The deceased had frequently wished his grandson Harold to stay away from the house, as he wanted money for his own purposes. His grandson had several times broken into the house, and

LIBRARY UNIVERSITY OF ILL.

money had been missed. The deceased was very infirm and subject to lightness of the head, and had fallen many times. Mr. S. Lodge, police surgeon, gave the result of a post-mortem examination he and Dr. Percy Lodge had made of the body. Externally there was an extensive abrasion on the top of the head, and an extensive fracture of the skull, with extravasation upon and in the brain. Several of the ribs were also fractured, which compressed the lungs and caused hæmorrhage. The injuries to the head were sufficient to cause death along with the extravasation of blood upon the brain. He had attended the deceased for the last thirty years, and on two occasions after he had fallen down the steps. The deceased was unconsious all the time witness was with him after his fall on Sunday week.

Harold Fyrth, recalled, was questioned as to his having broken into his grandfather's house, and admitted having taken some of his grandfather's money, but that was some time time ago.

Detective Talbot stated that the injury to the deceased was reported to the police at ten minutes past twelve o'clock. The police had nothing to add to the evidence adduced.

The Coroner recommended the jury to return an open verdict, the evidence not being sufficiently clear as to how the deceased's injuries were received. A verdict in accordance with this recommendation was thereupon returned.—*Bradford Observer.*

[**Mr. Fyrth was not M.R.C.V.S. He was a Registered Practitioner.**]

A Real Gem.

The following correspondence is too good to remain unpublished. Mr. Powys' reply leaves nothing for us to add, except it be a contemptuous pity for his victim.

The Secretary, The Veterinary College,
SIR, Camden Town, London.

I call attention to the putting of members of the Veterinary College as gentlemen, they are very good fellows until you do that, then you place in false position —Yours truly, CHARLES VAUGHAN, gentleman.

North Terrace, Hurstpierpoint,
August 6th, 1896.

DEAR SIR,

I beg to acknowledge receipt of your favour of 6th inst. and am quite at a loss to understand to what you refer. I have, however, forwarded your letter to the Editor of *The Veterinary Record* hoping he may find some way of remedying the false position in which you find yourself, by being placed as a gentleman in Association with members of the Veterinary College.—Yours faithfully, RICHD. A. POWYS, *Secretary.*

Charles Vaughan, Esq., Gentleman.
August 7th, 1896.

ARMY VETERINARY DEPARTMENT.

Capt. Robt. Moore and Vet.-Lieut. Millar are the veterinary officers chosen to accompany the 9th Lancers to Natal; they expect to sail on the 25th inst. with 414 Troop horses in two P. & O. boats, the "Malta" and the "Simla." No officers' chargers.

ROYAL WARRANT.

Retired Pay—Army Veterinary Department

VICTORIA R.I. A.O. 145. August, 1896.

Whereas it has been represented to Us that the rates of retired pay hitherto granted to officers of Our Army Veterinary Department are insufficient;

Our Will and pleasure is that the following shall be substituted for Articles 585 and 588 of Our Warrant for the Pay, Appointment, Promotion, and Retired Pay of Our Army, dated the 11th March, 1896:—

VOLUNTARY RETIREMENT.

585. Scale of Retired Pay.

Officers under the rank of director-general retiring under Article 583—

	Yearly.
Veterinary-Lieutenant-Colonel	
After 20 years' service*	£250
„ 25 „	350
„ 30 „	420
Veterinary-Major or Veterinary-Captain—	
After 20 years' service*	200
„ 25 „	300

Officers retiring under Article 584.—A gratuity of £800.

RETIREMENT FOR AGE OR MEDICAL UNFITNESS.

588. Scale of Retired Pay.

Officers retiring under Article 586.

Director-General, Army Veterinary Departmet	£600 a year.
Veterinary-Lieutenant-Colonel—	
After 20 years' service*	£320 a year.
„ 25 „	400 „
„ 30 „	420 „
Veterinary-Major or Veterinary-Captain—	
After 10 years' service*	8*s.* 6*d.* a day.
„ 15 „	10*s.* 6*d.* „
„ 20 „	£250 a year.
„ 25 „	350 „

Officers retiring under Article 587.

After 10 years' service.—A gratuity of £800.

After 30 years' service.*—Retired pay at the rate fixed by Article 585 for the officer's rank when retiring voluntarily after 30 years' service.

It is our further Will and Pleasure that this Our Warrant shall take effect from the 1st day of January, 1896.

Given at Our Court at Windsor, this 6th day of July, 1896, in the 60th year of Our Reign.

By Her Majesty's Command,
LANSDOWNE.

The Royal Warrant authorising revised rates of retired pay for the Army Veterinary Department has been for some time anticipated. The old rates for voluntary retirement were determined by a rule peculiar to the Veterinary Department—half the rate of full pay if retiring with twenty years' service, and not more than seven-tenths of the rate of full pay if retiring with not less than twenty-five year's service. The old rates for compulsory retirement were also fixed at inconvenient daily rates. Definite yearly rates of retired pay for each rank and for the usual periods of service are now fixed for both voluntary and compulsory retirement; and the several rates show an average advance of about £30 a year on the old ones, except that the director-general's retired pay on completing his term of service is increased from £500 to £600 a year. The officers of the Veterinary Staff were spoken of by Sir Ralph Knox, it may be remembered, not long ago when giving evidence before Lord Randolph Churchill's Committee as one of the most industrious and devoted bodies of officers in the Army. They are essential to the well being and efficiency of the mounted services, and as a rule so much respected by those among whom they are thrown officially that no one will grudge them the present increase in the amounts to which they become entitled on retirement from the Army.

As regards the Royal Warrant relating to the farriers and shoeing-smiths of the Royal Engineers, our attention has frequently been called to the absurdities of the sys-

tem now to be abolished. For some amazing reason the farriers of the engineers have hitherto been drawn exclusively from the sappers, who have nothing to do with the horses. Drivers have not been regarded as eligible for the appointments. This surely was one of the most curious of the many strange things that are still done in the Army. The object of the new warrant is to reverse this. We learn from an engineer officer that the appointments are in future to be reserved for drivers, and that the position of the selected soldiers is to be made precisely similar to that of non-commissioned officers and men of the Royal Artillery performing similar duties. —*Army & Navy Gazette.*

The officers of the Army Veterinary Department are to be congratulated on the appearance of the new warrant granting them an increase in their retiring pensions. To me the issue of the warrant is particularly gratifying, as I have persistently argued that the old terms were inadequate to the merits of the officers concerned. No one could justly complain of the revised scale of pensions. The veterinary officers evidently have had a good friend at Court in the person of the Accountant-General of the Army. Sir Ralph Knox, it is well-known, is a great admirer of the earnest and unassuming manner in which the Army veterinary surgeon has always done his duty. Giving evidence before Lord Randolph Churchill's Committee on the Army Estimates some years ago, Sir Ralph ventured the opinion—and that in his official capacity—that "there was no body of men in the Army more deserving." Asked why he thought this, he replied that the officers of this department rendered excellent service, always were obliging, never put forward petty grievances, made themselves universally liked and respected, and set an example of zeal and devotion to duty. This was high praise certainly coming from such a quarter; but it seems to be no exaggeration, for the Accountant General's estimate is endorsed by pretty well all cavalry officers. The new pension rates are as follows:—Director-General, £600 per annum instead of £500; Veterinary Lieutenant-Colonel, retiring after thirty years' service, £420 instead of £380; Veterinary Major or Veterinary Captain, going after twenty-four years' service, £350 instead of £290.—*County Gentleman.*

CORRESPONDENCE.

PROFESSIONAL DEFENCE.

Sir,

I am surprised that no one has noticed the very generous offer made by an anonymous correspondent in your pages a week or two since. An offer to contribute £150 to a fund to defend veterinary practitioners from persecution by the Cruelty to Animals Society is such a generous one that I quite expected it would call forth some attention even if it did not raise any enthusiasm.

It is a very serious matter for any practitioner to be liable to a criminal prosecution by a rich society that has no responsibility save to its unknown patrons and subscribers. We have no organised arrangement for meeting this kind of attack except our defence association, and I am not certain that it would take up such cases. Can we not organise? or will our defence association take the matter up? Something might surely be done. Yours truly,

An Escaped Victim.

[To organise an association which could conscientiously accept a large donation is a matter of difficulty and of hard work. We have no one with sufficient leisure to undertake the task. Our defence association would probably not care to accept the responsibility.—Ed.]

"POLYURIA AS A SYMPTOM OF EQUINE TUBERCULOSIS."

Sir,

I shall be greatly obliged if you will allow me a little space in which to give an explanation of the last paragraph of an article by me, under the above heading, which appeared in *The Record* of August 8th.

In the issue of August 15th I am rather severely criticised by my friend Mr. J. H. Carter, of Burnley, but perhaps not altogether undeservedly, as I ought to have given the proper explanation when I wrote the article. Whilst case No. II. was in my yard a professional friend saw it and wished me to try mallein, as he was "perfectly certain the animal was the subject of glanders." I did not think so but did it to satisfy him, with, as I have already stated, negative results.

The reason that I did not apply the tuberculin test was, that at no time during my treatment of the mare was the temperature below 103½ F. and as with a temperature of that height I should not expect to get a satisfactory re-action, I did not think it of any use trying it.—Yours faithfully,

Jno. R. Green, F.R.C.V.S.

High Street, Alfreton,
August 18th, 1896.

A PLAGUE OF FLIES.

Sir,

In the last issue of *The Veterinary Record*, August 15th, you ask for suggestions as to some mode of ridding horses of the suffering inflicted upon them by flies in the stable.

I have seen the following lotion used with very good results as a preventive against attacks of the hypoboscus equi. which I think is about the most irritating of the British flies which attack horses.

℞ Lign. quassia	Hjss.
Ac. boracici	℥j.
Glycerini	℥ij.
Ess. menth. puleg.	℥ss.

Aquæ ad cong. ij. Infuse for two days.

The horses to be sponged daily with the lotion. It has many advantages over paraffin and other substances used for sponging horses with, in that it is not disagreeable in use, or of an objectionable odour, and it is non-poisonous. Many practitioners have seen serious results from the too free use of paraffin.

I think this preparation would be well worth a trial as a preventive against a plague of flies as described in your journal.

Robert Platt, M.R.C.V.S.

Llangollen.

Sir,

The only and safest remedy that I have tried with invariable success every year is insect powder. Keep the powder floating in the air by whatever aid you choose, and keep the flies moving in that laden atmosphere. Repeat this process twice daily by closed apertures. The effect is astounding.—Yours faithfully,

Hy. Reynolds, M.R.C.V.S.

Chotzen, Bohemia.
August 17th, 1896.

Communications, Books, and Papers received:—Capt. Mills. *Mediam Neurotomy*, by C. Pellerin. Aug. 15.

Capt. J. A. Munn, Messrs. J. R. Green, W. Pauer, F. E. Place, A. Blake (encl.) O. G. Borrow, *Report Bombay Veterinary College, 1895-6.* Aug. 22.